

---

## *Salvia fairuziana* (Lamiaceae), a New Species from Lebanon

Ricardus M. Haber

Institute for Conservation of Biodiversity and Ecotourism Development (USEK University),  
P.O. Box 967, Jounieh, Lebanon. fon@sodetel.net.lb

Myrna T. Semaan

Center for Environmental Development, Awareness & Research (C.E.D.A.R.), P.O. Box 967,  
Jounieh, Lebanon

---

**ABSTRACT.** A new species of the genus *Salvia* L. (Lamiaceae) is described from the western slopes of Mount Lebanon characterized by a Mediterranean climate. *Salvia fairuziana* R. M. Haber & Semaan is distinguished by the following characters: perennial herb; hispid with dense tuberculate multiseptate trichomes emerging from wart-like turgid purple epidermal cells; leaves ovate-elliptic, cordate, shallowly lobed, verrucose; floral bracts discoidal, green with a white center and purple tips; verticillasters crowded; calyx 1.0–1.2 cm long, green, infundibular; corolla 2.4–2.7 cm long, lilac, squamulate, ventricose; staminal connectives dolabriform.

**Key words:** biodiversity, endemic, flora, Lamiaceae, Lebanon, Mediterranean.

According to Mouterde (1983), Lebanon possesses 18 species within the genus *Salvia* (Lamiaceae). Most of these have a wide distribution range in the Mediterranean region or occur eastward into Iran and Iraq (Hedge, 1982). Four species, however, are restricted to the eastern Mediterranean (Post, 1932; Mouterde, 1983). *Salvia rubifolia* Boissier, *S. viscosa* von Jacquin, and *S. pinardii* Boissier are limited to Lebanon and Syria; *S. judaica* Boissier occurs in Lebanon, Syria, and Palestine. *Salvia hierosolymitana* Boissier has a similar distribution to the latter, but also occurs in Jordan (Al-Eisawi, 1998) and northern Cyprus (Greuter & Raus, 1984).

***Salvia fairuziana*** R. M. Haber & Semaan, sp. nov.

**TYPE.** Lebanon. Kesrouan Province: Kfour village, 770 m, 34°02'09.6"N, 35°41'10.1"E, 17 May 2002, R. Haber & M. Semaan 2002 (holotype, MO; isotypes, BEL, K). Figure 1.

Herba perennis; indumentum densum hispidum, uniusque trichoma tuberculata multiseptata in tumulo ex epidermide turgido purpurato; folia verrucosa, ovato-elliptica, basi cordata, lobis lateralibus non profundis; bracteae

florales virides, centris albidis; verticillastri congesti; calyces 1.0–1.2 cm longi, infundibulares, lobis non effusis in fructibus; corollae 2.4–2.7 cm longae cum squamulis, ventricosae, labiis lilacinis; connectiva dolabriformia.

Perennial herb 50–80 cm high, with a distinctive and pleasant fragrance, mostly single-stemmed; stem 0.6–0.7 cm wide at base, simple, hispid with dense tuberculate and multiseptate trichomes, each emerging from a wart-like mound of turgid, purple epidermal cells, and also pilose with trichomes mostly arising from purple bases on the lower stem to short glandular on the upper. *Basal leaves* 15.0–18.5 × 6.5–8.0 cm, petiolate; petiole 5.5–6.5 cm long, pilose, with tuberculate multiseptate trichomes arising from purple mounds, with the indument extending to the midrib below; *blade* ovate, obtuse, cordate, shallowly lobed, erose, much verrucose above with multiseptate, tuberculate lanate-arachnoid trichomes mainly at the tips of verrucae, reticulate below with multiseptate, variably tuberculate lanate-arachnoid trichomes; *cauline and floral leaves* 3.0–12.5 × 2.3–6.0 cm, with indumentum similar to the basal leaves; the lower leaves shortly petiolate to sessile, ovate-elliptic, obtuse, cordate, unequal at base, shallowly lobed, sinuate, erose; *upper leaves* amplexicaul, ovate-lanceolate, acute-acuminate, cordate, unlobed, very sinuate, slightly undulate, erose; *floral bracts* 1.0–2.6 × 0.5–2.3 cm, the lower orbicular-reniform, acuminate, cordate, sinuate, erose, glabrous above, smooth at center, lanate-arachnoid and verrucose at the periphery, lanate below with tuberculate multiseptate trichomes, the upper bracts ovate, acuminate, entire, ciliate, glabrous to pubescent with tuberculate short, stout septate trichomes, discoidal with a white center and a green margin sometimes tinted purple especially at the tips of the flowering branches, the margin with some glandular trichomes above, but with arachnoid and short tuberculate trichomes below. Panicle commencing from the second or third stem node, 15–30 cm long,



Figure 1. *Salvia fairuziana* R. M. Haber & Semaan, photos from the typified collection taken by the authors in Kfour village. —A (left). Whole Plant. —B (right). Verticillasters.

erect, densely covered with purple-based tuberculate multiseptate and short glandular trichomes; panicle branches up to 15, each 7–10 cm long with 5 to 7 verticillasters, sometimes with secondary branches, the lowermost usually aborted; *verticillasters* crowded, each 2- to 6-flowered, with flowers longer than the internodes. *Flowers* 2.6–2.8 cm long; pedicels 3 mm long with dense glandular trichomes and short stout tuberculate-septate eglandular trichomes; *calyx* 1.0–1.2 cm long, infundibular, 13-veined, green, with a purple tint that increases gradually in density from the lower part to the upper part of the panicle; tube 6 mm long, with dense glandular trichomes and short rigid tuberculate-septate eglandular trichomes especially on veins, pilose inside; *lower lip* with two teeth 5–6 mm long, triangular-subulate, with mucro 1.5 mm long; *upper lip* 5.5 × 3.0 mm, truncate, tridentate with the middle tooth shorter, flat, concave; teeth mucronate, ciliate with short rigid tuberculate-septate trichomes; *corolla* 2.4–2.7 cm long, white to faintly lilac in bud, lilac-violet in flower; tube 8 mm

long, white, ventricose, squamulate, with an internal fimbriated scale on squamula; *lower lip* 8–10 mm long, with short trichomes and sessile glands; *upper lip* 17–19 mm long, very falcate, emarginate, with short tuberculate-septate eglandular trichomes, glandular trichomes, and sessile glands; *pistil* 36 mm long, exerted by 5–7 mm, lilac to violet at the tip; *stigma* bifid, unequal; *staminal connectives* clearly longer than, and articulating with, the filaments, *anthers and connectives* 22 mm long; lower theca 2.9 mm long, sterile, reduced to a dolabriform plate, with a tooth running down the plate. *Seed* 2.2–2.3 × 1.7–1.8 mm, brown, finely tuberculate, with darker venation, ovoid, rounded on the outside, angled on the inside and with a rounded apex.

*Distribution and habitat.* *Salvia fairuziana* is local and relatively rare. The authors observed a population comprising a few hundred specimens extending between 700 and 900 m altitude near Kfour village. There it grows among calcareous

rocks in Mediterranean red soil in an open *Quercus coccifera* L. grove (De Vaumas, 1954).

Derelict terraces where *Salvia fairuziana* grows indicate that the region was previously managed for agriculture. This may have allowed the plant to survive unnoticed and to regain a foothold as the terraces were abandoned several decades ago. However, urban sprawl and encroaching development on the mountainside have destroyed large expanses of the original habitat and remain a serious threat to the extant population. The flowering period of *Salvia fairuziana* has been observed by the authors to extend from May to June.

*Salvia fairuziana* most closely resembles *S. sclarea* L., *S. indica* L., *S. chrysophylla* Stapf, and *S. argentea* L. based on its dolabriform articulate stamens, squamulate and ventricose corolla tube, and its lilac-colored corolla upper lip. However, *S. fairuziana* differs from *S. sclarea* in having green, not pink-mauve, bracts. While the hood and lower lip of the corolla are similarly colored lilac in *S. fairuziana*, the lower lip is variably colored in *S. indica*, *S. chrysophylla*, and *S. argentea*, being dark violet, yellow, and white, respectively. In addition, the latter three have lax verticillasters, whereas those of *S. fairuziana* are congested.

*Salvia fairuziana* also differs markedly from other eastern Mediterranean *Salvia* species existing in Lebanon. *Salvia rubifolia* and *S. pinardii* occur in the continental semi-arid habitat while *S. viscosa*, *S. hierosolymitana*, and *S. judaica* may occur in habitats and climatic conditions similar to those of *S. fairuziana*. *Salvia hierosolymitana* has a red corolla and calyx, *S. judaica* a violet corolla (10 mm long) and red calyx, and *S. viscosa* a pink to pale

violet corolla (15 mm long). In contrast, *S. fairuziana* has a green calyx and lilac corolla (24–27 mm long).

*Salvia fairuziana* is named, on behalf of the millions of admirers, as homage, gratitude, and respect to the Lebanese operatic diva, Lady Fairuz, who has, for the past 50 years, enchanted the country, inspiring humaneness, patriotism, and respect for nature.

*Paratype.* LEBANON. **Kesrouan Province:** Kfour village, 755 m, 34°01'48.3"N, 35°40'39.2"E, 8 June 2002, R. Haber & M. Semaan 2002 (MO).

*Acknowledgments.* The authors thank the Khalil Fattal and Sons Establishment for financially supporting research projects of the Friends of Nature NGO. The "Wild Flora Project" has already resulted in the discovery of several probable new species and many other taxa previously unaccounted for in the flora of Lebanon.

#### Literature Cited

- Al-Eisawi, D. M. H. 1998. *Salvia hierosolymitana* Boiss. P. 173 in Field Guide to Wild Flowers of Jordan and Neighbouring Countries. Jordan Press Foundation "Al Rai," Amman.
- De Vaumas, E. 1954. La structure et le relief du sol. Pp. 17–83 in *Le Liban*. Firmin-Didot, Paris.
- Greuter, W. & T. Raus (editors). 1984. *Med-Checklist Notulae*, 8. *Willdenowia* 13.
- Hedge, I. C. 1982. *Salvia* L. Pp. 400–461 in P. H. Davis, *Flora of Turkey*, Vol. 7. Edinburgh Univ. Press, Edinburgh.
- Mouterde, P. 1983. *Salvia* L. Pp. 155–171 in *Nouvelle Flore du Liban et de la Syrie*, Vol. 3. Dar El-Machreq, Beirut.
- Post, G. 1932. *Salvia* L. Pp. 347–370 in *Flora of Syria, Palestine and Sinai*, Vol. 2. American Press, Beirut.